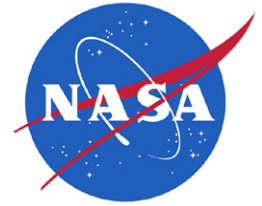


# FactSheet

National Aeronautics and  
Space Administration

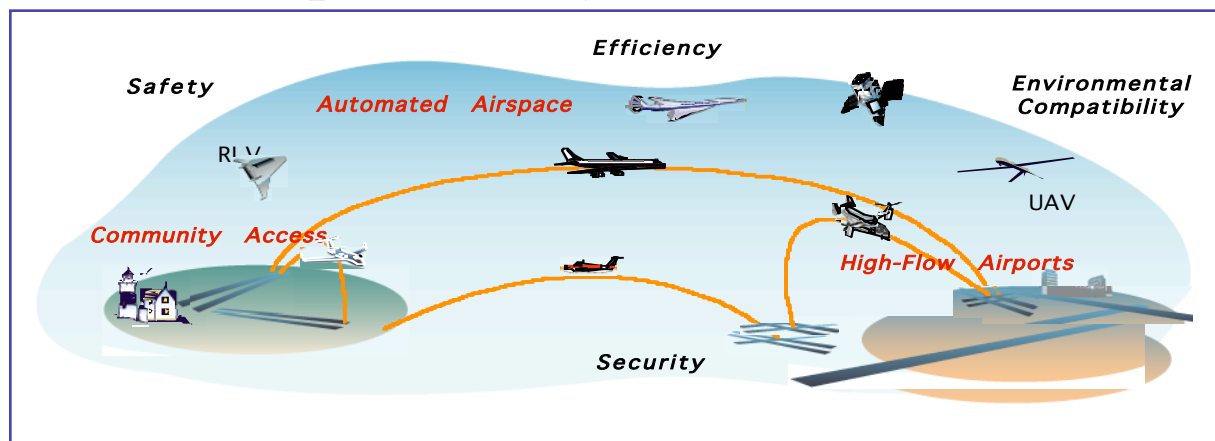
Ames Research Center  
Glenn Research Center  
Langley Research Center



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## VIRTUAL AIRSPACE MODELING AND SIMULATION (VAMS)

# Developing, modeling, and simulating concepts for the future air transportation system



### Background:

The Virtual Airspace Modeling and Simulation (VAMS) Project is a new, multi-year, research and development effort, which NASA initiated in fiscal year 2002 and will end in 2007. The VAMS Project is in response to the projected air traffic growth and lack of sufficient future capacity in the nation's air transportation system. NASA, in cooperation with the FAA, is proposing to develop and explore revolutionary changes in airspace operations to meet these future capacity needs.

The purpose of the VAMS Project is to provide advanced concepts: an airspace system modeling, simulation, and evaluation environment; and technology roadmaps for enabling those concepts. This environment will be used to assess promising technological and conceptual approaches in order to achieve NASA's objectives to double the capacity of the aviation system within 10 years and develop revolutionary concepts to triple it within 25 years (based on 1997 levels). NASA is sponsoring, as part of this project, a series of technical interchange meetings to guide the project's development.

### Specific goals and objectives of the VAMS effort are:

- Develop advanced air transportation concepts
  - Develop a set of potential operational concepts
  - Create concepts of use and architectures to provide definitions of the future air transportation system and its elements
  - Develop technology roadmaps to achieve these concepts
- Develop the capability to model and simulate behavior of air transportation system concepts and the complex interactions of their elements
  - Develop a set of analytical and computational models and methods to conduct detailed assessments of candidate operational concepts
  - Establish a simulation capability that will enable safe investigation of complex advanced air transportation concepts, and develop a deeper understanding of human performance interactions within it
- Conduct assessments of advanced air transportation concepts
  - Address potential benefits, identify risks and limits, and evaluate performance, safety, operations, and National Airspace System infrastructure and transition challenges